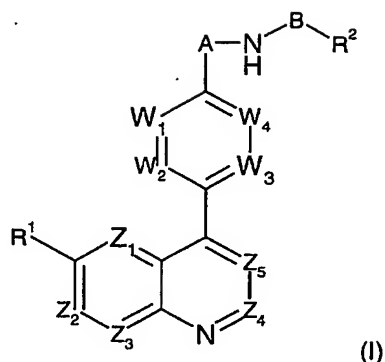


What is claimed is:

1. A compound of formula (I):

5



wherein:

one of  $Z_1$ ,  $Z_2$ ,  $Z_3$ ,  $Z_4$  and  $Z_5$  is N, one is  $CR^{1a}$  and the remainder are CH, or

10 one or two of  $Z_1$ ,  $Z_2$ ,  $Z_3$ ,  $Z_4$  and  $Z_5$  are independently  $CR^{1a}$  and the remainder are CH;

$R^1$  and  $R^{1a}$  are independently hydrogen; hydroxy; (C<sub>1-6</sub>)alkoxy unsubstituted or substituted by (C<sub>1-6</sub>)alkoxy, amino, piperidyl, guanidino or amidino any of which is

15 optionally N-substituted by one or two (C<sub>1-6</sub>)alkyl, acyl or (C<sub>1-6</sub>)alkylsulphonyl groups, CONH<sub>2</sub>, hydroxy, (C<sub>1-6</sub>)alkylthio, heterocyclylthio, heterocyclyloxy, arylthio, aryloxy, acylthio, acyloxy or (C<sub>1-6</sub>)alkylsulphonyloxy; (C<sub>1-6</sub>)alkoxy-substituted(C<sub>1-6</sub>)alkyl; halogen; (C<sub>1-6</sub>)alkyl; (C<sub>1-6</sub>)alkylthio; trifluoromethyl; trifluoromethoxy; nitro; cyano; azido; acyl; acyloxy; acylthio; (C<sub>1-6</sub>)alkylsulphonyl; (C<sub>1-6</sub>)alkylsulphoxide;

20 arylsulphonyl; arylsulphoxide or an amino, piperidyl, guanidino or amidino group optionally N-substituted by one or two (C<sub>1-6</sub>)alkyl, acyl or (C<sub>1-6</sub>)alkylsulphonyl groups;

provided that when  $Z_1$ ,  $Z_2$ ,  $Z_3$ ,  $Z_4$  and  $Z_5$  are  $CR^{1a}$  or CH, then  $R^1$  is not hydrogen;

$W_1$ ,  $W_2$ ,  $W_3$  and  $W_4$  are each independently selected from N or  $CR^3$ ;

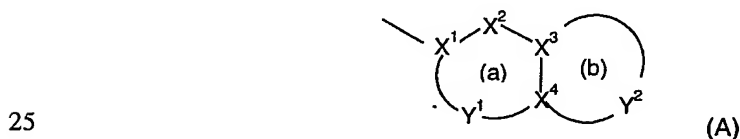
each  $R^3$  is independently selected from:

- 5 hydrogen; hydroxy; halogen; trifluoromethyl; trifluoromethoxy; cyano; nitro; azido; acyl; acyloxy; acylthio; amino, mono- and di-( $C_{1-6}$ )alkylamino; and substituted and unsubstituted ( $C_{1-6}$ )alkoxy, ( $C_{1-6}$ )alkyl, ( $C_{3-7}$ )cycloalkyl, aminocarbonyl, ( $C_{1-6}$ )alkylthio, ( $C_{1-6}$ )alkylsulphonyl, and ( $C_{1-6}$ )alkylsulphoxide;
- 10 A is  $(CRR)_n$ ;  
B is  $(CRR)_m$ , C=O, or  $SO_2$ ;  
n is 1 or 2;  
m is 1 or 2  
provided that when n is 1, m is 2; when n is 2, m is 1; and when B is C=O or  $SO_2$
- 15 then n is 2;

each R is independently selected from

- hydrogen; halogen; trifluoromethyl; trifluoromethoxy; cyano; nitro; azido; acyl; acyloxy; acylthio; amino, mono- and di-( $C_{1-6}$ )alkylamino; and substituted and
- 20 unsubstituted ( $C_{1-6}$ )alkoxy, ( $C_{1-6}$ )alkyl, ( $C_{3-7}$ )cycloalkyl, aminocarbonyl, ( $C_{1-6}$ )alkylthio, ( $C_{1-6}$ )alkylsulphonyl, and ( $C_{1-6}$ )alkylsulphoxide;

$R^2$  is a substituted or unsubstituted bicyclic carbocyclic or heterocyclic ring system of formula (A):



containing up to four heteroatoms in each ring in which

- ring (a) is aromatic and ring (b) is aromatic or non-aromatic;
- $X^1$  is C;
- $X^2$  is N,  $NR^6$ , O,  $S(O)_x$ , CO,  $CR^4$  or  $CR^4R^5$ ;
- 30  $X^3$  and  $X^4$  are each independently N or C;

Y<sup>1</sup> is a 1 to 2 atom linker group each atom of which is independently selected from N and CR<sup>4</sup>;

Y<sup>2</sup> is a 2 to 6 atom linker group, each atom of Y<sup>2</sup> being independently selected from N, NR<sup>6</sup>, O, S(O)<sub>x</sub>, CO, CR<sup>4</sup> and CR<sup>4</sup>R<sup>5</sup>;

5

- each R<sup>4</sup> and R<sup>5</sup> is independently selected from: hydrogen; (C<sub>1-4</sub>)alkylthio; halo; carboxy(C<sub>1-4</sub>)alkyl; halo(C<sub>1-4</sub>)alkoxy; halo(C<sub>1-4</sub>)alkyl; (C<sub>1-4</sub>)alkyl; (C<sub>2-4</sub>)alkenyl; (C<sub>1-4</sub>)alkoxycarbonyl; formyl; (C<sub>1-4</sub>)alkylcarbonyl; (C<sub>2-4</sub>)alkenyloxycarbonyl; (C<sub>2-4</sub>)alkenylcarbonyl; (C<sub>1-4</sub>)alkylcarbonyloxy; (C<sub>1-4</sub>)alkoxycarbonyl(C<sub>1-4</sub>)alkyl;
- 10 hydroxy; hydroxy(C<sub>1-4</sub>)alkyl; mercapto(C<sub>1-4</sub>)alkyl; (C<sub>1-4</sub>)alkoxy; nitro; cyano; carboxy; amino or aminocarbonyl is optionally substituted by (C<sub>1-4</sub>)alkoxycarbonyl, (C<sub>1-4</sub>)alkylcarbonyl, (C<sub>2-4</sub>)alkenyloxycarbonyl, (C<sub>2-4</sub>)alkenylcarbonyl, (C<sub>1-4</sub>)alkyl or (C<sub>2-4</sub>)alkenyl and optionally further substituted by (C<sub>1-4</sub>)alkyl or (C<sub>2-4</sub>)alkenyl; (C<sub>2-6</sub>)alkenyl;
- 15 (C<sub>1-4</sub>)alkylsulphonyl; (C<sub>2-4</sub>)alkenylsulphonyl; or aminosulphonyl wherein the amino group is optionally mono- or di-substituted by (C<sub>1-4</sub>)alkyl or (C<sub>2-4</sub>)alkenyl; aryl; aryl(C<sub>1-4</sub>)alkyl; aryl(C<sub>1-4</sub>)alkoxy; or R<sup>4</sup> and R<sup>5</sup> may together represent oxo;

- each R<sup>6</sup> is independently hydrogen; trifluoromethyl; (C<sub>1-4</sub>)alkyl unsubstituted or
- 20 substituted by hydroxy, (C<sub>1-6</sub>)alkoxy, (C<sub>1-6</sub>)alkylthio, halo or trifluoromethyl; (C<sub>2-4</sub>)alkenyl; aryl; aryl(C<sub>1-4</sub>)alkyl; arylcarbonyl; heteroarylcarbonyl; (C<sub>1-4</sub>)alkoxycarbonyl; (C<sub>1-4</sub>)alkylcarbonyl; formyl; (C<sub>1-6</sub>)alkylsulphonyl; or aminocarbonyl wherein the amino group is optionally substituted by (C<sub>1-4</sub>)alkoxycarbonyl, (C<sub>1-4</sub>)alkylcarbonyl, (C<sub>2-4</sub>)alkenyloxycarbonyl,
- 25 (C<sub>2-4</sub>)alkenylcarbonyl, (C<sub>1-4</sub>)alkyl or (C<sub>2-4</sub>)alkenyl and optionally further substituted by (C<sub>1-4</sub>)alkyl or (C<sub>2-4</sub>)alkenyl; and
- each x is independently 0, 1, or 2; or a pharmaceutically acceptable salt thereof.

2. A compound according to claim 1 wherein  $Z_5$  is CH or N,  $Z_3$  is CH or CF and  $Z_1$ ,  $Z_2$  and  $Z_4$  are each CH, or  $Z_1$  is N,  $Z_3$  is CH or CF and  $Z_2$ ,  $Z_4$  and  $Z_5$  are each CH.
- 5 3. A compound according to claim 1 wherein  $R^1$  is methoxy and  $R^{1a}$  is H or when  $Z_3$  is  $CR^{1a}$  it may be C-F.
4. A compound according to claim 1 wherein:
- a)  $W_1$ - $W_4$  are independently  $CR^3$ ;
- 10 b)  $W_1$ ,  $W_3$  and  $W_4$  are N and  $W_2$  is  $CR^3$ ;
- c)  $W_2$  is N and  $W_1$ ,  $W_3$  and  $W_4$  are independently  $CR^3$ ;
- d)  $W_3$  is N and  $W_1$ ,  $W_2$  and  $W_4$  are independently  $CR^3$ ; or
- e)  $W_4$  is N and  $W_1$ - $W_3$  are independently  $CR^3$ .
- 15 5. A compound according to claim 1 wherein  $R^3$  is independently selected from hydrogen, substituted and unsubstituted  $(C_{1-6})$ alkoxy, and  $NH_2$ .
6. A compound according to claim 1 wherein R is independently selected from hydrogen, substituted and unsubstituted  $(C_{1-6})$ alkyl,  $CONH_2$ ,  $COOH$ , hydroxy,
- 20 halogen, and substituted and unsubstituted  $(C_{1-6})$ alkoxy.
7. A compound according to claim 1 wherein in the heterocyclic ring (A),  $Y^2$  has 3-5 atoms including  $NR^6$ , O or S bonded to  $X^4$  and  $NHCO$  bonded via N to  $X^3$ , or O or NH bonded to  $X^3$ .
- 25 8. A compound according to claim 1 wherein  $R^2$  is selected from
- 4*H*-benzo[1,4]thiazin-3-one-6-yl,
- 4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one-6-yl,
- 4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one-6-yl,
- 30 1,2,3,4-tetrahydro-[1,8]naphthyridine-7-yl,
- 1*H*-pyrido[3,2-*b*][1,4]thiazin-2-one-7-yl,

4*H*-benzo[1,4]oxazin-3-one-6-yl, and  
6-fluoro-2,3-dihydrobenzo[1,4]dioxine-7-yl.

9. A compound according to claim 1 which is:

- 5           6-((2-[4-(6-Methoxy-[1,5]naphthyridin-4-yl)phenyl]ethylamino)methyl)-4*H*-  
benzo[1,4]thiazin-3-one;  
          6-((2-[4-(6-Methoxy-[1,5]naphthyridin-4-yl)phenyl]ethylamino)methyl)-4*H*-  
pyrido[3,2-*b*][1,4]thiazin-3-one;
- 6-((2-[4-(6-Methoxy-[1,5]naphthyridin-4-yl)phenyl]ethylamino)methyl)-4*H*-  
10   pyrido[3,2-*b*][1,4]oxazin-3-one;  
          3-Oxo-3,4-dihydro-2*H*-benzo[1,4]thiazine-6-sulfonic acid {2-[4-(6-methoxy-  
[1,5]naphthyridin-4-yl)phenyl]ethyl}amide;  
          {2-[4-(6-Methoxy-[1,5]naphthyridin-4-yl)phenyl]ethyl} (5,6,7,8-  
tetrahydro[1,8]naphthyridin-2-ylmethyl)amine;
- 15           6-([4-(6-Methoxy-[1,5]naphthyridin-4-yl)benzylamino]methyl)-4*H*-  
benzo[1,4]thiazin-3-one;  
          7-((2-[4-(6-Methoxy-[1,5]naphthyridin-4-yl)phenyl]ethylamino)methyl)-1*H*-  
pyrido[3,2-*b*][1,4]thiazin-2-one;
- 6-{2-[4-(6-Methoxy-[1,5]naphthyridin-4-yl)benzylamino]ethyl}-4*H*-  
20   benzo[1,4]oxazin-3-one;  
          6-{2-[4-(6-Methoxy-[1,5]naphthyridin-4-yl)benzylamino]ethyl}-4*H*-  
benzo[1,4]thiazin-3-one;  
          (7-Fluoro-2,3-dihydrobenzo[1,4]dioxin-6-ylmethyl){2-[6-(6-  
methoxy[1,5]naphthyridin-4-yl)[1,2,4]triazin-3-yl]ethyl}amine;
- 25           6-((2-[4-(6-Methoxyquinolin-4-yl)phenyl]ethylamino)methyl)-4*H*-pyrido[3,2-  
*b*][1,4]oxazin-3-one;  
          6-((2-[4-(6,8-difluoroquinolin-4-yl)phenyl]ethylamino)methyl)-4*H*-pyrido[3,2-  
*b*][1,4]thiazin-3-one;
- 6-((2-[4-(8-Fluoro-6-methoxyquinolin-4-yl)phenyl]ethylamino)methyl)-4*H*-  
30   pyrido[3,2-*b*][1,4]thiazin-3-one;  
          6-((2-[6-(6-methoxy-[1,5]naphthyridin-4-yl)pyridin-3-yl]ethylamino)methyl)-  
4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;
- 6-((2-[5-(6-methoxy-[1,5]naphthyridin-4-yl)pyridin-2-yl]ethylamino)methyl)-  
4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;
- 35           6-((2-[6-(6-methoxy-[1,5]naphthyridin-4-yl)pyridin-3-yl]ethylamino)methyl)-  
4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one;

*N*-(2,3-dihydro[1,4]dioxino[2,3-*c*]pyridin-7-ylmethyl)-2-{6-[6-(methyloxy)-1,5-naphthyridin-4-yl]-3-pyridinyl}ethanamine;

*N*-(2,3-dihydro[1,4]dioxino[2,3-*c*]pyridin-7-ylmethyl)-2-{5-[6-(methyloxy)-1,5-naphthyridin-4-yl]-2-pyridinyl}ethanamine;

5        *N*-(2-{6-[6-(methyloxy)-1,5-naphthyridin-4-yl]-3-pyridinyl}ethyl)-3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazine-6-carboxamide; and

*N*-(2-{5-[6-(methyloxy)-1,5-naphthyridin-4-yl]-2-pyridinyl}ethyl)-3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazine-6-carboxamide;

or a pharmaceutically acceptable salt thereof.

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10.     A pharmaceutical composition comprising a compound according to claim 1 and a pharmaceutically acceptable carrier.

11.     A method of treating bacterial infections in mammals which comprises the  
15     administration to a mammal in need thereof an effective amount of a compound according to claim 1.